

US EPA Mid-Continent Ecology Division

Research Project Summary

Development of Methods for Assessing Contaminated Sediments: TIE

Overview

Contaminated sediments generally contain complex mixtures of chemicals. While sediment toxicity tests can indicate if the sediment is toxic overall, effective management of contaminated sediments requires an understanding of the specific chemical(s) responsible for sediment toxicity. The purpose of this research project is to develop Toxicity Identification Evaluation (TIE) methods for contaminated sediments. Previous work has adapted water column TIE techniques for application to interstitial water. However, technical and logistical differences between interstitial water toxicity tests and whole sediment exposures make it desirable to have TIE methods applicable directly to bulk sediment. Methods are being developed to characterize, isolate, and identify three types of common sediment toxicants: metals, ammonia, and non-ionic organic chemicals. Results of this research will aid all programs involved with the assessment and management of contaminated sediments.

Key Products

Leonard EN, Mount DR, and Ankley GT. 1999. Modification of metal partitioning by addition of synthetic AVS to freshwater sediments. *Environ Toxicol Chem* 18:858-864.

U.S. EPA Guidance Manual: Toxicity Identification Methods for Contaminated Sediments (draft 9-03; final publication anticipated in early 2004).

For further information on this research contact:

Dave Mount
mount.dave@epa.gov
529-5169